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EXAMINER

BAHTA, KIDEST

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 07/07/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

Applicant(s)

09/824,665

HUBER ET AL.

Examin r

Art Unit

Kidest Bahta

2125

-- The MAILING DATE f this communication appears on the c ver sheet with th c rrespondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Information Disclosure Statement***

1. The information disclosure statement (IDS) filed December 20, 2002 has been considered.

***Claim Objections***

2. Claims 11, 18 and 24 are objected to because of the following informalities:

Claim 11, it is not clear if all limitations of claim 9 are included, in claim 11,

Claim 18, line 2, the phrase "the processor receiving data from" is incomplete. It is not clear from where the processor receiving data from? Thus, claim 18 has not been further treated on the merits and no prior art has been applied.

Claim 24, it is not clear if all limitations of claim 19 are included in claim 24, Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. Claim 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9, the preamble of claim 9 is method "A method of operating an electronic manufacturing plant comprising the steps of:" However; the body of the claim is a system claim.

Claim 9 provides for the use of steps, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is

intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4, 6-7, 9-17, 19-20, 22-24, 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Hopkins et al. (U. S. Patent 6,507,765).

Regarding claims 1-2, 9 and 11, Hopkins discloses a system for assisting operators in electronics manufacturing plant, the system comprising: processor (Fig. 7, element 290); a data storage device coupled to the processor (Fig. 7, element 294); display coupled to the processor (Fig. 7, element 296); monitoring (432, i.e., CIMCIS Archive) software stored in the data storage device (Fig. 16, elements 422, 424, 426, ...430) and adapted for being run on the processor (Fig. 16, elements 70 and 54; column 12, lines 16-41), at least one of a circuit panel magazine feeder monitoring device (Fig. 6, 256 and 274, i.e., the error/defect monitoring function 256 calculates and displays the top errors for each of the error groups of feeder 274, nozzle and type 278.), a screen printer monitoring device a component placement machine monitoring device

an oven monitoring device (Fig. 1, i.e., Each of the processing machines 16, 20 and 24 is typically control by a specialized and dedicated host computer, such as host computer 18, 22 and 26, respectively. It is inherent the host computer used for monitoring purpose too.), and a magazine (feeder) storage monitor device (Fig. 6, element 282, i.e., feeder management 282 ... includes extended non-host commands and basic host commands 288.).

Regarding claims 3, Hopkins discloses the component placement machine monitoring device includes a splice detection subsystem and component closed loop validation subsystem (column 4, lines 14-30, i.e., a processing of manufacturing data for providing real-time data analysis and feedback local to each manufacturing machine (Fig. 1, elements 16, 20, 24) and for providing closed-loop control of the manufacturing process. ...Provide complete, real-time tracking inventory).

Regarding claims 4 and 14, Hopkins discloses a network (Fig. 1, element 50) connecting the processor and the at least one monitoring device (Fig. 15).

Regarding claims 6-7,15-17, 22-23 and 29, Hopkins discloses that the handheld device includes a barcode scanner (column 6, lines 39-40); and display and processor are part of a handheld device (Fig. 1, element 42) and it display information as a function of the data (column 6, lines 36-46, i.e., handheld device allow complete tractability of the manufacturing process such that each part installed on a given PCB can be traced in traced in terms of a particular machine, reel, device location, time, date, machine operator... It is inherent to have a processor and display to process and show all data listed above).

Regarding claim 10, Hopkins discloses alerting the operator when a preselected limit of the monitoring software is reached (column 11, lines 30-33).

Regarding claim 12, Hopkins discloses a screen printer (16) having a screen printer monitoring device (18) for sensing a solder level at the screen printer (column 4, lines 35-38, 52-58 and column 5, lines 21-30); at least one component placement machine (20) having a feed tape and placement monitor (22) for monitoring at least one of the existence of a feed tape splice and the number of the component on the feed tape (column 4, 38-40; column 9, lines 8-15) and a processor (Fig. 1, element 36) receiving data from the screen printer monitoring device (Fig. 1, element 18) and placement monitor (Fig. 1, element 22; Fig. 1 and Fig. 16; column 6, lines 45-53; column 13, lines 41-49; i.e., Rather than one central processor, the CIMCIS terminal 36, line controller 54, workstation 56, and factory server 64 distribute the processing to enhance data analysis and allow real time feedback of relevant data without interfacing with the operation of the machine host computer).

Regarding claim 13, Hopkins discloses conveyer (Fig. 1, element 12) located at least between the screen printer and at least one component placement machine for transporting circuit boards (Fig. 1; column 4, lines 31-35).

Regarding claims 19-20 and 24, Hopkins discloses screen printing (16) a printed circuit board with a screen print (column 4, lines 52-58); placing at least one component on the printed circuit board using a placement machine (Fig. 1, element 20; column 4, lines 38-40); monitoring at least one of the screen printer and the placement machine so as to generate data related to necessary operation task and display the data to the

operator (column 6, line 38-column 7, lines 38, Fig 2-Fig. 4, Fig. 6 and Fig. 17);  
organizing data the data as a function of time (column 7, lines 29-39, column 8, lines 54-66)

Regarding claims 28, Hopkins discloses a processor (36) operatively connected to receive data from at least one of a screed printer (16) and a component placement (20) machine (Fig. 1; column 16, lines 41-49, i.e., A third method of connecting the CIMCIS terminal 36 to a processing machine 16 is used where the processing machine operated in stand alone mode but also has the capability of communication with host computer 18, it is inherent that the some method applied to a processing machine 20); display (296) connected to the processor (290) displaying task data related to the screed printer and the component placement (column 6, line 38-column 7, lines 38, Fig. 2-Fig. 4, Fig. 6 and Fig. 17).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 21, 25-27 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hopkins et al. (U. S. Patent 6,507,765).

Regarding claim 25 and 30-31, Hopkins discloses that monitoring the screen printer (16) and the placement machine (18) so as to generate data related to necessary operation task and display the data to the operator (column 3, lines 11-30;

column 5, lines 21-35; column 6, line 38-column 7, lines 38, Fig 2-Fig. 4, Fig. 6 and Fig. 17); determining a first and a second task time as a function of the input data and displaying both the first and second task time (column 7, lines 11-39; Fig. 2-Fig. 4, task is the same as states); organizing and displaying the task data so as to form a list of tasks data (column 7, lines 29-39; column 8, lines 54-66; Fig. 6 and Fig. 17).

Hopkins fails specifically disclose monitoring or receiving data from more than one screen printer and placement machine. However, it would have been obvious to person of ordinary skill in the art at the time of invention to add a plurality of processing machines for each steps (screen printer and placement machine) to be monitored by the host machine of Hopkins since a manufacturing system or production line generates a product in a mass, when more than one processing machine in each steps would make the product faster and therefore with less cost.

Regarding claims 26 and 27, Hopkins discloses monitoring the assembly line, for malfunctions and displaying malfunction data together with the list of tasks (column 6, lines 40-43; column 12, lines 16-41; Fig. 6); malfunction data includes data indicating at least one of a fiducially misreading, an assembly line conveyor stop, and a failed splice (column 6, line 58 - column 7, line 10, column 9, lines 8-15 and Fig. 3)

Regarding claim 21, Hopkins discloses the limitation of claim 19 as stated above in Par. 4. Hopkins fails specifically disclose monitoring more than one placement machine. However, it would have been obvious to person of ordinary skill in the art at the time of invention to add a plurality of processing machines for each steps (screen printer and placement machine) to be monitored by the host machine of Hopkins since a



manufacturing system or production line generates a product in a mass, when more than one processing machine in each steps would make the product faster and therefore with less cost.

8. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hopkins et al. (U. S. 6,507,765) in view of McCain et al. (U. S. Patent 6,129,449).

Regarding claims 5 and 8, Hopkins discloses the limitations of claims 1, 4 and 6, as stated above in par. 4, However Hopkins fails to disclose the network is wireless LAN and the server coupled to the handheld device wireless fashion.

McCain discloses that the network is wireless (column 2, lines 53-65) and server (13, i.e., host computer) coupled to the handheld device (17) wireless fashion (Fig. 1, column 6, lines 42-63).

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teaching of Hopkins with the teaching of McCain since the master communication by use of dedicated link or wireless interface with other satellites to assure that network area coverage adequately serves all nodes. Data transmitted to the handheld unit from a process machine, indicating the possible cause of error is display or in the case of malfunction circuit, a schematic of the circuit is display showing the malfunctioning circuit component. It utilizing such a system, minimum of factory personnel will be able to locate any malfunction and correct it rapidly.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
10. Any inquiry concerning communication or earlier communication from the examiner should be directed to Kidest Bahta, whose telephone number is (703) 308-6103. The examiner can normally be reached on M-F from 7:30 a.m. to 4:00 p.m. If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached (703) 308-0538. Additionally, the fax phone for Art Unit 2125 is (703) 308-6306 or 308-6296. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Kidest Bahta  
June 23, 2003

A handwritten signature in black ink, appearing to read 'Kidest Bahta', is written over the typed name and date.